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ABSTRACT

The Horizons-Upward Bound Program assists students from low income families who have shown a potential for academic achievement to conclude high school and to go on to higher education. It provides participants with services and enrichment activities in high school English, mathematics, reading, and science. The analysis of pre- and postcomparative performance in reading and mathematics on the California Achievement Tests indicated that the gains of the program participants exceeded the gains of the control students. This report presents the recruitment and selction procedures, discusses the summer and winter programs, describes the procedures for establishing a control group and the evaluation plan, analyzes the data and findings, and offers profiles of a representative group of the participants. (PN)

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ED236157

EVALUATION OF

THE HORIZONS-UPWARD BOUND PROGRAM

1981-1982

Funded Under Title I of the Elementary
and Secondary Education Act

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October, 1982

TM 830 405

ABSTRACT

Purpose

The purpose of the Horizons-Upward Bound Program was to assist students from low income families who had shown a potential for academic achievement to conclude high school and go on to higher education. The evaluation of the project sought answers to the following questions:

1. What effect did the program treatment have upon the enrollees with respect to their performance in reading comprehension and mathematics on the California Achievement Tests in comparison to a similar group of students who did not participate in the program?

2. Was the program successful in achieving its purpose?

Findings

The findings indicated that with regard to achievement in reading comprehension on the CAT, the pre- and post gains of the project participants generally exceeded the gains of students serving as controls.

With reference to comparative performance on the mathematics phase of the test, it was found also that the gains of the program students generally surpassed the gains of the control students.

A review of profiles of students who have recently concluded the program and are currently enrolled in institutions of higher learning indicated that the program was successful in attaining its purpose of assisting enrollees to complete high school and matriculate in college.

Method

Post hoc matching on the CAT pretest and a t-test were employed to establish equivalency among students in the target and control groups. The means of posttest grade equivalent scores were calculated, and comparative analyses were made to determine significant differences in the results.

Conclusions and Recommendation

Based on the findings above, augmented by the evaluator's insights concerning the project's operation, it was concluded that the Horizon-Upward Bound Program was successful. It is recommended that the program should continue to remain functional in its present form during the 1982-83 school year.

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INTRODUCTION

The Horizons-Upward Bound Program is a year-round supplementary activity geared toward assisting students from low-income families who have demonstrated a capacity for achievement in the academic areas but who might not have an opportunity to continue their education past high school to move on to higher education.

The program is predicated on the premise that the success or failure of each student in the adult world is greatly influenced by the amount of education which he or she is able to assimilate. It is, therefore, essentially an academic program for youths who hope to enrich their lives through education.

This concept was made operational by a Ford Foundation grant in 1965 which enabled Cranbrook School in Bloomfield Hills and the Detroit Board of Education to generate, cooperatively, a project (Horizons) involving students in Butzel, Jefferson, and Pelham Junior High Schools. The Office of Economic Opportunity had also sponsored at this time a similar project (Upward Bound) based on the thesis that youngsters from disadvantaged homes could escape poverty through educational redirection.

In 1966 the two projects merged and were funded under the Title I Elementary and Secondary Education Act as Horizons-Upward Bound (HUB). The program has also been endowed since its inception by private sources in the Detroit area.

Horizons-Upward Bound was designed to provide student participants with services and enrichment activities in the subject areas of English, mathematics, reading, and science during the high school years. The yearly program consisted of two phases: (1) a six-week residential summer period during which students

lived at Cranbrook during July and August, attended classes, and engaged in other related activities, and (2) a winter phase during which this same group of students was transported to and from the Miller Middle School site in Detroit for three Saturday sessions per month of tutorial work and enrichment activities beginning in October and continuing through May, 1982.

Students usually began the program in the Cranbrook facility at the conclusion of their eighth or ninth school year. Periodic multi-faceted evaluations and conferences regarding enrollee's progress were conducted by the project staff and directors during the project year. At its termination a decision was made as to whether each student should continue with the program.

At the conclusion of the high school period those students who remained in the program generally were able to further their education at two or four-year colleges. While the program does not provide the funds necessary for higher education, the project staff has in the past been quite successful in guiding students to sources through which such assistance could be obtained.

Although HUB enrolled only male students during its first twelve years of operation, it became coeducational in 1977 and has added groups of young women each succeeding year.

Recruitment Procedures and Selection

Candidates for the program were selected by early summer from among twelve feeder middle schools in Regions 1, 2, and 8 via recommendation lists of about ten to twelve students submitted by each school to the HUB staff.

Upon application to the program, candidates were transported to the Cranbrook site, interviewed by the project staff and older enrollees, and administered the

Stanford Achievement Test in reading and mathematics before being returned to Detroit.

After the recruitment procedures had been completed, a summary sheet was prepared from student files for submission to the Admission Committee noting the candidate's grades, reading and math results, interview scores, school recommendations, and family income level.

The basic criteria for the selection of a Horizons-Upward Bound student are enumerated below:

1. The student should reflect a low-income background related in varying degrees to official federal guidelines, and

2. The student should be characterized by those who recommend him/her, including the project staff, as an individual with potential for continuing education who probably would not enjoy that possibility without a significant means of additional support.

While acknowledging difficulties and uncertainties in the selection process, the project staff has found, empirically, that there were more opportunities for success in working with a youngster when there was at least one supportive adult figure in the family circle.

Generally, the staff sought students who could benefit from a year-round academic and culturally-rich program which could make a decisive difference in their future careers, provided they were prepared to work diligently during the four-year HUB experience. Final selections were usually made from a middle range of applicants where at one end of the spectrum were students from solid middle-income families and who also had outstanding academic records, and at the other end were those students who did poorly in school and who received very low scores on testing instruments.

Once selected, each student was expected to attend a six-week residential summer program at Cranbrook School during July and August and to participate in the winter-phase program consisting of three Saturdays in each month, October through May, which convened at Miller Middle School. Enrollees were also expected to remain in the program until graduation from high school and subsequent admittance to a college or a suitable form of post-secondary education.

Summer Phase Program

The HUB program at Cranbrook during July and August was broad ranged and flexibly tailored to meet each student's individual needs. Its five-day weekly course offerings consisted basically of the English language arts, mathematics, reading (including tutorial), and science which also encompassed computer terminals and programming.

In addition students were able to elect such offerings as American, world, and Black history, sociology, French and Spanish languages, drama, speech, contemporary social problems, typing, and research-paper writing.

At the conclusion of the regular school day, enrollees were able to participate in other activities including athletics and physical fitness, art, wood shop, photography, music, and publications.

Winter Phase Program

The winter phase of the program, October through May, was concerned essentially with the development of basic skills, utilizing tutoring as a basic technique. Students were required to bring their regular-school classroom textbooks to deal with specific skills development in the areas of English, mathematics, reading, history, and science. Flexible scheduling experiences were maintained from week

to week and were based upon regular class needs.

In the afternoon students were free to take part in a variety of enrichment functions such as indoor swimming, math games, chess or backgammon, word games, and gymnasium activities, and/or to continue their academic tutorial sessions in the basic disciplines or in French, Spanish, and other specialized areas.

Recruitment of enrollees, testing of students, college orientation activities, and one-on-one counseling sessions with regard to the participant's summer progress comprised other staff functions of the winter phase. As an aid toward the maintenance of continuity of rapport and insight with regard to individual student needs, basically the same staff members, primarily from Detroit feeder schools, served as staff members in both the summer and winter phases of the program.

DESCRIPTION OF THE EVALUATIVE PROCEDURES

The results of the Detroit Public Schools annual testing program conducted in April were used to measure the achievement gains of HUB students in the areas of reading and mathematics. The California Achievement Tests grade equivalent scores posted in the April, 1981, testing period comprised the pretest data, and corresponding data from the April, 1982, testing constituted the posttest data.

In no case were test results utilized in this evaluation unless both pre- and posttest data for students were available in the subject area under investigation.

Establishing a Control Group

In order to establish a control group of students who were not involved in the program but who were similar to the program (target) students academically and sociologically, the following procedures were carried out.

A post-hoc matching process was implemented whereby the CAT pretest grade equivalent scores of the target students in reading comprehension at each grade level were matched with similar pretest scores of other students in corresponding grade levels, schools, and regions. This procedure was conducted separately for each grade level for which appropriate data were available in such a manner that there were no statistically significant differences between the means of scores of the target and control students involved in the evaluation.

Similar procedures were implemented to equate the target and control groups of students in the area of mathematics.

Hence it was indicated via a pretest score-matching process, augmented by a t-test to determine any statistical differences between the means of pretest

grade equivalent scores, that the students comprising the target group and the students who served as controls were equivalent at the onset of this evaluation based on their California Achievement Tests performance in April, 1981.

The data in Tables 1-3 which follow are illustrative of the equivalency factor. It was shown that the means of grade equivalent pretest scores of the program students were identical to the means of scores of the control students at each grade level, respectively, in both reading and mathematics as were also the corresponding numbers of students in the study. It was shown also that the corresponding standard deviations were likewise quite similar.

The t-test statistical procedure which generated values of zero provided corroberative evidence that there were no academic differences with respect to CAT performance in reading and mathematics among the Horizons-Upward Bound students and those students in similar schools who were not involved in the program.

TABLE 1

MEANS AND STANDARD DEVIATIONS OF GRADE 9 STUDENTS' GRADE EQUIVALENT SCORES ON THE CAT PRETEST IN APRIL, 1981

Test Phase	Target			Control			t Value
	N[1]	Mean	SD	N[1]	Mean	SD	
Reading	7	9.1	3.34	7	9.1	3.34	0.00
Mathematics	7	9.3	1.58	7	9.3	1.58	0.00

[1]N = numbers of students.

t = no statistical significance.

TABLE 2

MEANS AND STANDARD DEVIATIONS OF GRADE 10 STUDENTS' GRADE EQUIVALENT SCORES ON THE CAT PRETEST IN APRIL, 1981

Test Phase	Target			Control			t Value
	N[1]	Mean	SD	N[1]	Mean	SD	
Reading	2	7.7	2.83	2	7.7	2.83	0.00
Mathematics	2	11.1	1.98	2	11.1	1.98	0.00

[1]N = numbers of students.

t = no statistical significance.

TABLE 3

MEANS AND STANDARD DEVIATIONS OF GRADE 11 STUDENTS' GRADE EQUIVALENT SCORES ON THE CAT PRETEST IN APRIL, 1981

Test Phase	Target			Control			t Value
	N[1]	Mean	SD	N[1]	Mean	SD	
Reading	6	9.9	1.54	6	9.9	1.60	0.00
Mathematics	6	10.8	1.90	6	10.8	1.90	0.00

[1]N = numbers of students.

t = no statistical significance.

The Evaluation Plan

Having ascertained the equivalency of the target and control groups of students prior to program treatment, the plan for the evaluation of the Horizons-Upward Bound Program was essentially as follows:

1. Posttest grade equivalent scores on the April, 1982, CAT were obtained for each target and control student, and the means of grade equivalent scores were calculated for the reading and mathematics subject areas at each of Grades 9, 10, and 11[1].

2. The means of grade equivalent scores of the target students by individual grade level were compared to the means of corresponding scores of the control students in each of the reading and math areas.

3. The extent of pre- and posttest gain or retrogression in grade equivalent units (G.E.U.) was computed and cited accordingly.

4. The t-test statistical procedure was used to determine significant differences, if any, in the posttest means of grade equivalent scores within Grades 9, 10, and 11.

5. The results were tabulated, cited, and described.

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[1]The inclusion of the number of target students in the evaluation was based on the availability of pre- and posttest data. No such information was available with regard to target students in Grade 12.

ANALYSIS OF THE DATA AND FINDINGS

The following is addressed to the analysis of the data and findings and is predicated upon the evaluation plan cited previously. Hence each of the ensuing tables delineate data generated via the evaluative procedures and is based on the California Achievement Tests pre- and post performance of the target and control students within each grade level and subject area.

Reading (Grade 9)

It was indicated by the data in Table 4, below, that the Grade 9 target group of students gained an average of slightly more than one school year in grade equivalent units, whereas the control group posted a gain of slightly more that one-half of a year in the reading comprehension phase of the California Achievement Tests.

The posttest mean of scores of the target group was shown to be 10.3 (ten years and three months), and the corresponding mean of grade equivalent scores generated by the control group was 9.7 (nine years and seven months). Hence based

TABLE 4

MEANS AND STANDARD DEVIATIONS OF PRE- AND POSTTEST CAT GRADE EQUIVALENT SCORES OF GRADE 9 TARGET AND CONTROL STUDENTS

Group	N[1]	Pretest (1981)		Posttest (1982)		Gain in G.E.U.[2]	t Value
		Mean	SD	Mean	SD		
Target	7	9.1	3.34	10.3	2.76	1.2	0.61
Control	7	9.1	3.34	9.7	2.57	0.6	

[1]N = numbers of students
[2]G.E.U. = grade equivalent units
t = no statistical significance

TABLE 5

MEANS AND STANDARD DEVIATIONS OF PRE- AND POSTTEST CAT GRADE EQUIVALENT SCORES OF GRADE 10 TARGET AND CONTROL STUDENTS

Group	N[1]	Pretest (1981)		Posttest (1982)		Gain in G.E.U.[2]	t Value
		Mean	SD	Mean	SD		
Target	2	7.7	2.83	9.6	3.18	1.9	0.24
Control	2	7.7	2.83	8.6	2.69	0.9	

[1]N = numbers of students

[2]G.E.U. = grade equivalent units

t = no statistical significance

on the pretest mean, the target group achieved an average gain of one year and two months in grade equivalent units, and the control group attained an average gain of six months.

An application of the t-test implied that there were no significant differences between the posttest means of grade equivalent scores in reading comprehension between the Grade 9 target and control groups of students.

Reading (Grade 10)

The data in Table 5 (data were available for only two target students) suggested that the Grade 10 HUB enrollees attained an average gain of almost two school years in grade equivalent units in reading, and the control students attained a corresponding gain of approximately one year.

It was seen that the program group achieved a posttest mean of 9.6 (nine years and six months) which indicated an average gain of one year and nine months based on the students'pretest mean of scores. The control students attained a mean of

TABLE 6

MEANS AND STANDARD DEVIATIONS OF PRE- AND POSTTEST CAT GRADE EQUIVALENT SCORES OF GRADE 11 TARGET AND CONTROL STUDENTS

Group	N[1]	Pretest (1981)		Posttest (1982)		Gain in G.E.U.[2]	t Value
		Mean	SD	Mean	SD		
Target	6	9.9	1.54	11.1	1.44	1.2	0.12
Control	6	9.9	1.60	11.0	1.16	1.1	

[1]N = numbers of students

[2]G.E.U. = grade equivalent units

t = no statistical significance

8.6 (eight years and six months) which represented a pre- and post gain of nine months.

The t-test indicated that the differences between the means of the target and control groups were not large enough to be regarded as statistically significant.

Reading (Grade 11)

It was noted by the data delineated in Table 6, above, that the target and control groups in Grade 11 attained an average gain of slightly more than one school year in grade equivalent units in reading comprehension.

The posttest mean of scores of the target students was 11.1 (eleven years and one month), and the parallel mean of the control group was 11.0 (eleven years). Therefore the target participants achieved an average gain of one year and two months in grade equivalent units, and the control group attained an average gain of one year and one month..

It was implied by the t-test procedure that the differences in the means of

TABLE 7

MEANS AND STANDARD DEVIATIONS OF PRE- AND POSTTEST CAT GRADE EQUIVALENT SCORES OF GRADE 9 TARGET AND CONTROL STUDENTS

Group	N[1]	Pretest (1981)		Posttest (1982)		Gain in G.E.U.[2]	t Value
		Mean	SD	Mean	SD		
Target	7	9.3	1.58	10.0	1.40	0.7	0.61
Control	7	9.3	1.58	9.5	1.45	0.2	

[1]N = numbers of students

[2]G.E.U. = grade equivalent units

t = no statistical significance

the target and control students were not of sufficient margin to be considered statistically significant.

Mathematics (Grade 9)

The data cited in Table 7 indicated that the Grade 9 students in the HUB program gained an average of 0.7 (seven months) in grade equivalent units in mathematics, whereas the control group attained a gain of 0.2 (two months) on the California Achievement Tests.

It was noted that the posttest mean of scores of the target group was 10.0 (ten years), and the mean of the students serving as controls was 9.5 (nine years and five months). Thus it was implied that the gain posted by the program youths exceeded the gain of the control students by a margin of five months.

The statistic generated by the t-test indicated that the differences between the posttest means of the program and non-program youths were not large enough to be regarded as statistically significant.

TABLE 8

MEANS AND STANDARD DEVIATIONS OF PRE- AND POSTTEST CAT GRADE EQUIVALENT SCORES OF GRADE 10 TARGET AND CONTROL STUDENTS

Group	N[1]	Pretest (1981)		Posttest (1982)		Gain in G.E.U.[2]	t Value
		Mean	SD	Mean	SD		
Target	2	11.1	1.98	11.2	1.91	0.1	.03
Control	2	11.1	1.98	11.3	1.77	0.2	

[1]N = numbers of students

[2]G.E.U. = grade equivalent units

t = no statistical significance

Mathematics (Grade 10)

It was reflected by the data in Table 8 (data were available for only two program students) that both the target and control groups of students in Grade 10 attained an average gain in grade equivalent units of slightly more than one month in mathematics.

The target group attained a posttest mean of 11.2 (eleven years and two months), and the control group attained a mean of 11.3 (eleven years and three months) in grade equivalent units. Of interest is that the pretest means (11.1) of scores of both groups were substantially above the mean of the national norming group (9.7).

The t-test indicated that there were no statistically significant differences between the posttest means of scores of the target and control groups.

Mathematics (Grade 11)

The data depicted in Table 9 (next page) implied that the target group of students attained an average gain of seven months (0.7) in grade equivalent units in

TABLE 9

MEANS AND STANDARD DEVIATIONS OF PRE- AND POSTTEST CAT GRADE EQUIVALENT SCORES OF GRADE 11 TARGET AND CONTROL STUDENTS

Group	N[1]	Pretest (1981)		Posttest (1982)		Gain in G.E.U.[2]	t Value
		Mean	SD	Mean	SD		
Target	6	10.8	1.90	11.5	1.58	0.7	0.40
Control	6	10.8	1.90	11.1	1.59	0.3	

[1]N = numbers of students

[2]G.E.U. = grade equivalent units

t = no statistical significance

mathematics, whereas the control youths attained an average gain of three months (0.3).

It was seen that the target group generated a posttest mean of 11.5 (eleven years and five months), and the control students attained a posttest mean of 11.1 (eleven years and one month) in grade equivalent units. Hence it was indicated that the gain of the target group surpassed the gain posted by the control group by the extent of four months.

The t-test statistic indicated that the differences between the respective means of scores were of insufficient magnitude to be considered statistically significant.

Profiles of Participants

On the following page are depicted illustrated profiles of a representative group of Detroit Public Schools students who recently concluded the Horizons-Upward Bound Program and have been admitted to institutions of higher learning.

DOCKETT, SONYA — Upward Bound graduate of Detroit Murray-Wright; great sensitivity, high performance; representing in so many ways the best in HUB. Schools admitted: Western Michigan, Central Michigan, Bowdoin College (Maine)*. Field of study: Pre-law.

POWELL, BRETT — Upward Bound graduate of Detroit Murray-Wright; enthusiastic, hard worker and winner of Math award in final HUB summer. Schools admitted: Northern Michigan University, Central Michigan University*. Field of study: Engineering.

SPRAGGINS, APRIL — Graduate of Detroit Western; National Honor Society in high school; thoughtful, purposeful young woman with definite career goals and every chance of achieving them. School admitted: University of Michigan. Field of study: Pre-dental.

TURNER, DARRYL — Upward Bound graduate of Detroit Southeastern; active in high school in track, debate and student government; mature, capable member of HUB '81. School admitted: Michigan State University. Field of study: Pre-law.

JACKSON, LINDEN — Graduate of Detroit Martin Luther King; a hard-working, insightful and curious student; strong academic curriculum in high school. Schools admitted: Oakland University, Western Michigan University. Field of study: Computer Science.

McLEHAN, RILEY — Graduate of Detroit Osborn; special interests and talents in the creative arts; high school curriculum focused on mass media; praised during final Cranbrook summer as responsible dorm citizen; young man with unusual determination to break into difficult field. School admitted: Wayne Community College.

TARRANT, DOREEN — Upward Bound graduate of Detroit Southeastern; intelligent, articulate student well defined; great staying power during the high school years; success in mathematics and physics during her final Cranbrook summer. School admitted: Eastern Michigan University. Field of study: Physical Therapy or Psychology.

JACKSON, TIMOTHY — Upward Bound graduate of Detroit Southeastern; mature, dependable, the very picture of the Christian athlete/scholar; All-City tackle in high school; has used HUB superbly well. Schools admitted: Eastern Michigan University, Tuskegee Institute*. Field of Study: Education.

BARBER, ANGELA — Upward Bound graduate of Detroit Murray-Wright; independent, cooperative and friendly; outstanding progress in Reading during final Cranbrook summer. School admitted: Oakland University. Field of study: Business Administration.

NEELEY, MILBERT — Graduate of Detroit Martin Luther King; outgoing, brimming over with energy; founder of HUB cheerleading squad; exceptional talent in Dance. School admitted: Juilliard School of Performing Arts.

GENTRY, SEDRIC — Graduate of Detroit Northeastern; described in final Cranbrook summer as 'most talented student in English'; Captain of HUB summer basketball team and splendid point guard. School admitted: Howard University.

STOKES, IDA RENEE — Graduate of Detroit Northeastern; high praise for mathematics accomplishment during final Cranbrook summer; wide range of interests and generally positive orientation. School admitted: Wayne Community College. Field of study: Pre-medicine.

McMORRIS, MICHAEL — Graduate of Detroit Cooley; concert band in high school; varsity basketball during final Cranbrook summer; four commendations earned in last HUB round. Schools admitted: Grand Valley State, Saginaw Valley State*. Field of study: Criminal Justice.

PATTERSON, CYNTHIA — Graduate of Detroit Martin Luther King; sincere, hardworking perceptive student; high academic achievement in final HUB summer; National Honor Society in high school. Schools admitted: Wayne State, Oakland University, Michigan State University*. Field of Study: Business Administration.

COLEMAN, RONALD — Graduate of Detroit Martin Luther King; determined, conscientious, persevering student; active in high school swimming and tennis. Schools admitted: Wayne State, University of Detroit, Detroit Institute of Technology, Moorehouse*. Field of study: Computer technology.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In an attempt to measure the effectiveness of the Horizons-Upward Bound Program, the pretest (April, 1981) grade equivalent mean of scores of the project participants in each of the high school grade levels was compared to the mean generated by the participants' posttest (April, 1982) scores, and the gain in grade equivalent units, or years and months, was calculated[1].

For the purpose of establishing a degree of validity to the extent of posted gains, or retrogression, a control group comprised of similar students was systematically selected. This was accomplished by means of a post hoc matching process whereby each program enrollee's grade equivalent score in reading comprehension on the California Achievement Tests was matched with an identical pretest score of another student in his/her school and grade level who did not participate in the Horizons-Upward Bound Program.

The t-test statistical procedure was employed to ensure that there were no statistically significant differences among the pretest means of grade equivalent scores of the experimental and control groups of students involved in the evaluation.

Identical procedures were used to equate the experimental and control groups with regard to CAT performance in the area of mathematics.

Reading

With respect to achievement in reading comprehension the findings indicated, generally, that the program participants attained larger pre- and post gains than

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[1]Ibid, p. 9.

did the control students.

The HUB enrollees in Grade 9 attained an average gain in grade equivalent units of one year and two months, thereby surpassing the gain of the control group by a margin of six months.

Grade 10 participants posted an average gain of one year and nine months in reading which exceeded the corresponding progress of the control youths by the extent of one school year.

The program enrollees in Grade 11 posted an average gain of one year and two months, and the control students attained a gain of one year and one month, an almost identical attainment of progress[1].

Mathematics

Relative to comparative CAT performance of the target and control youths in the mathematics phase, it was found that the results generally followed a pattern similar to that manifested in reading comprehension.

Grade 9 project participants achieved a pretest to posttest gain in mathematics of seven months which exceeded the gain of the control students by the extent of five months.

The participants in Grade 10 posted a gain of one month in math, and the controls posted a gain of two months, thus indicating a rather similar margin of progress.

Program enrollees in Grade 11 attained a pretest to posttest gain of seven months which exceeded the performance of the control group of students by a

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[1]The findings above should be interpreted with caution due to the relatively small number of participants of whom pre- and post data were available.

margin of four months[1].

Conclusions

The analysis of the pre- and post comparative performance in reading comprehension and mathematics on the California Achievement Tests indicated, generally, that the gains of the program participants exceeded the gains of the control students.

Moreover, by means of all-day, in-depth visitations to the program's winter-phase site in Miller Junior High School and the summer site in Cranbrook School, the evaluator was able to obtain empirical knowledge concerning the HUB operation. During these visits staff members and student participants were interviewed, the facilities were inspected, and the ramifications of the program were discussed with the project directors.

The evaluator was favorably impressed with the demeanor of relaxed efficiency and professionalism on the part of the directors and staff, the purposefulness and the dedication of the student enrollees, and the amiable inter-relationships which prevailed among students and staff members.

A review of brief profiles of Detroit students who have recently concluded the program and are currently enrolled in colleges and universities added further to the positive indications concerning the program.

Recommendations

Based on the procedures employed to assess the effectiveness of the program in terms of the evaluation plan, augmented by the evaluator's impressions of its operational aspects, the 1981-82 Horizons-Upward Bound Program was perceived

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[1]Ibid, p. 18.

to have been successful. Therefore it is recommended that it should continue to remain operational in essentially its present form.

However, albeit the findings of this evaluation indicated that the program enrollees, generally, performed comparatively well on the California Achievement Tests, the relatively small number of participants regarding whom pretest and posttest data were available tended to diminish the reliability of the results.

In order to alleviate this problem, it is further recommended that pertinent regional test coordinators should assume a more active role in the future to ensure that all Horizons-Upward Bound students in their regions are tested on the CAT in accordance with testing directives addressed to this issue which emanate from the Testing Section of the Research and Evaluation Department.